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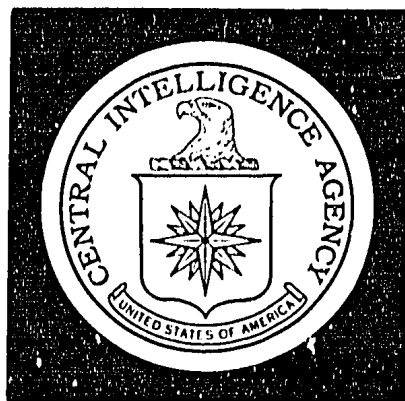
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Intelligence Memorandum

Communist China's Rising Imports Of Industrial Diamonds

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CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
May 1970

INTELLIGENCE MEMORANDUM

Communist China's Rising Imports
Of Industrial Diamonds

Introduction

Several years ago, Communist China began to import unusually large amounts of industrial diamonds. For the most part, this has occurred during the Cultural Revolution when industrial activity in China was depressed and requirements for industrial diamonds presumably would be declining rather than rising. For this reason and also because they are important in the manufacture of a wide range of industrial and military hardware, questions regarding China's use of these diamonds have been raised. This memorandum briefly sketches the typical applications of the various kinds of diamonds in industry and gives information on world production and marketing; it presents data on the volume, value, and origin of China's recent imports; it submits evidence that seeks to explain the sharp upturn in imports and the use of these diamonds in China; and it probes the Chinese motives, identifying those that most likely underlay the decision to raise these imports.

Note: This memorandum was produced solely by CIA. It was prepared by the Office of Economic Research and was coordinated with the Office of Current Intelligence and the Office of Strategic Intelligence.

Importance of Industrial Diamonds

1. Diamonds, because of their extreme hardness and abrasion resistance, have an important function throughout the industrial world. With the increasing requirement for fine tolerances in modern production as well as for flawless finishes, uniformity, and speed, they have become highly important in the maintenance of certain machine tools, in the machining of parts for an imposing series of military and industrial products, and in various drilling applications. In the form of crushed bort or powder, industrial diamonds are used to manufacture wheels for grinding metals, glass, and other hard or abrasive materials. Small industrial stones weighing from 1/120 to 1/3 carat or crushing bort are used in bits for drilling oil wells, blastholes, and the like. Larger, better quality stones of about 1/4 to 4 carats are used in lathe tools and in tools for cutting threads and gears and for dressing or trueing grinding wheels. Industrial stones of the best quality in sizes ranging from about 1/20 to 1 carat are required in dies for drawing fine wire, particularly for the electronic and lamp industries and for high-strength steel wire for aircraft. Fine stones are also used in some specialized apparatus such as hardness testers. Recently, stones of this size and quality have been used in tools for machining refractory metals, such as beryllium, in strategic military applications.

World Production and Marketing

2. Estimated world production of natural industrial diamonds in 1968 was 29 million carats. Twelve African countries turned out about four-fifths of the production, with the USSR providing most of the remainder. The African output is produced largely by Congo (Kinshasa), Congo (Brazzaville), Ghana, and the Republic of South Africa. Congo (Kinshasa) has about 85% of the non-Communist world's known reserves of industrial diamonds which are predominately crushing bort.

3. The diamond industry is dominated by the South African firm of DeBeers Consolidated Mines, Ltd., which controls most of world diamond production through several subsidiaries. Diamonds are sold through the Central Selling Organization (CSO) which is owned and managed by the diamond producers. The CSO also directs sorting and grading as well as administering agreements and contracts with the principal African producers. The organization is well financed and maintains large reserve stocks which are used to meet unforeseen increases in demand. The diamonds are sold in either London or Johannesburg, and, except for major consumers that buy directly from the CSO, marketing to final users is left almost entirely to diamond merchants or brokers who provide the user with the specific material that is needed.

Trends in China's Imports of Industrial Diamonds,
1966-69

4. A worldwide survey of officially reported exports of industrial diamonds since 1965 shows that shipments to Communist China turned sharply upward in 1966 and held to this trend during 1967-68. In 1969, statistics for the first 9 months reveal that China's purchases were still rising but apparently had begun to level off. As shown in Table 1, the value of China's imports of industrial diamonds in both 1968 and the first 9 months of 1969 was more than 80 times that of 1965. Sales by the United Kingdom and West Germany accounted for almost nine-tenths of China's purchases during the period surveyed. The sole remaining supplier was Belgium. In 1968, China bought about 1.6%, by weight, of the world's production of industrial diamonds. By value, however, the purchases were more significant, amounting to an estimated 5% to 10% of world output.

5. The steep rise in the value of Chinese imports of industrial diamonds during 1966-69 is attributed more to cost increases than to increases in the amount of diamonds imported. As shown in Table 2, the average cost per carat rose from \$3.85 in 1965 to almost \$51 in the first 9 months of 1969.

Table 1

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Communist China: Imports of Industrial Diamonds

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Marketing Country	Thousand US \$					Jan-Sep 1969	Percent of Total
	1965	1966	1967	1968	Total		
United Kingdom	17.5	401.4	1,880.0	4,365.0	20,037.9	26,701.8	53
West Germany	6.0	29.0	1,881.0	15,558.5	579.0	18,053.5	36
Belgium	234.1	569.6	1,361.4	1,326.5	2,201.6	5,693.2	11
Total	257.6	1,000.0	5,122.4	21,250.0	22,818.5	50,448.5	100

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Table 2

Communist China: Average Cost Per Carat
of Imported Industrial Diamonds

Year	Imports		Average Cost per Carat (US \$)
	Value (Thousand US \$)	Amount (Carats)	
1965	257.6	66,900	3.85
1966	1,000.0	183,000	5.46
1967	5,122.4	276,000	18.56
1968	21,250.0	466,000	45.60
1969 (Jan-Sep)	22,818.5	450,000	50.71

6. The rise in average cost per carat during 1965-69 resulted partly from price increases. Although precise data on the movement of world market prices for industrial diamonds are not available,

[redacted] with one notable exception, the market during the last several years has been somewhat depressed, and there has been no general upsurge in prices. The exception referred to is die stones, one of the types of industrial diamonds the Chinese have been buying in increasingly larger quantities since 1967. [redacted]

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[redacted] unusually heavy Chinese buying has created a tight market for this type of diamond, driving prices in 1969 to a level about 15% to 35% higher than in 1965-66.

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7. For the most part, however, the rise in average cost per carat occurred because the Chinese purchases were made up of progressively greater proportions of the more expensive types of diamonds. Examination of weight and value data on Free World exports of diamonds to China in 1965-66 indicates that they consisted predominantly of crushing bort, a relatively inexpensive

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type of industrial diamond used primarily for the manufacture of grinding wheels. Similar data for 1968 and 1969, even after deflating to account for the rise in prices of die stones, show a strong shift by the Chinese to imports of expensive, high-quality stones used mainly for wire drawing dies, cutting tools, and drilling bits.

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8. In so far as the Chinese reduced imports of inexpensive diamonds after 1966, it is probably because they had developed and put into production a process for producing synthetic diamonds which could be substituted for crushing bort and other less expensive types of natural diamonds.

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[redacted]

[redacted] in July 1968 the Chinese themselves announced that they were serially producing synthetic diamonds under the First Ministry of Machine Building. The Harbin Grinding Wheel Factory, identified by the Chinese as a producer of the synthetic product in May 1968, was probably the site of the initial serial production. It is also possible that the reduction of purchases of inexpensive stones partly reflected a temporary surplus of the cheaper varieties of diamond as a result of the heavy buying of these types in 1966.

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11. Both the timing and the magnitude of the rise in China's imports of industrial diamonds reinforce the evidence for stockpiling. The abrupt increases in both value and quantity of imports during 1967 and 1968, as shown in Table 2, occurred during the height of the Cultural Revolution, when the requirements of most industrial users of diamonds probably were lower instead of higher than in 1966. Furthermore, even if most of China's industry had not been depressed during 1967-68, it is highly unlikely that the current industrial requirements for diamonds during this period would have increased as rapidly as suggested by the imports. China's diamond purchases during the two-year period 1967-68 reached a total 21 times by value and 3 times by weight the sum of the purchases made during 1965-66.

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Probable Chinese Motives for Stockpiling

12. The rapid buildup of a national stockpile of industrial diamonds by China since 1966 or 1967 seems to have been primarily a reaction to several developments on the world scene. Mainland press articles and

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radiobroadcasts left little doubt that China's leaders viewed with considerable alarm the intensification of the Vietnam War in 1965 and the large commitment of US military forces to that area during the next several years. At the same time, they probably became even more concerned about the stepup in deployment of ground and air forces along the northern frontier by a powerful and increasingly hostile USSR. Peking was probably also aware of US attempts in 1967-68 to obtain the cooperation of selected Free World countries in further restricting exports of essential commodities to China. By 1969 it had become clear that Free World exports to China would not be further restricted, and Chinese fears of conflict with the United States probably had largely subsided. Relations with the USSR, however, had become critical following the border clashes in March 1969. In the light of these events, it would be logical for China's leaders to pursue contingency planning measures, including the stockpiling of industrial diamonds and other vital commodities.

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[redacted]

[redacted] China has been stockpiling a variety of strategic goods as a contingency against conflict with the USSR.

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13. Alternative motives for Chinese stockpiling of industrial diamonds could be advanced. It could be said, for example, that the Chinese have been buying and storing large amounts of these diamonds in anticipation of increased domestic requirements and a worldwide scarcity of supplies accompanied by rising market prices. This probably could not account for the stepup in purchases of the cheaper varieties of diamonds during 1966 because there was no indication then that supplies of these types were growing scarce or that prices would rise more than moderately. On the other hand, it could possibly account, at least partly, for the heavy Chinese buying of the more expensive types that started in 1968. As noted earlier, supplies of one such type, die stones, were becoming tight and prices had been rising. Economic motives, however, if they played any part at all in the Chinese decision to expand the stockpile of industrial diamonds, probably were secondary to strategic considerations.

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Conclusions

14. Since 1965, China's imports of industrial diamonds have risen unprecedentedly, reaching levels in the past two years that apparently exceeded any conceivable current requirements of Chinese industry. In both 1968 and the first 9 months of 1969, the value of these imports was more than \$20 million, or more than 80 times the value of industrial diamonds imported in 1965. Although the diamond imports also increased substantially by weight during this period and the prices of some types rose moderately, most of the rise in the value of imports was the consequence of a shift by the Chinese toward imports of the more expensive types of stones. The reduction in import demand for cheaper diamonds seems to have resulted from Chinese success in producing synthetic diamonds that could be substituted for crushing bort and other less expensive types of natural diamonds.

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16. Strategic considerations probably account primarily for China's rapid buildup of a national stockpile of industrial diamonds. The large commitment of US military forces to Indochina during 1965-68 and the almost simultaneous stepup in deployment of Soviet forces opposite China's northern border would have provided the motivation for the Chinese to undertake contingency planning measures, including the stockpiling of essential commodities.

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